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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,759

06/09/2006

Mark John Goulding

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3208

23599

7590

10/08/2008

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.

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ARLINGTON, VA 22201

EXAMINER

WU, SHEAN CHIU

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

10/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/563,759

Applicant(s)

GOULDING ET AL.

Examiner

Shean C. Wu

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 4 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, the notations "g", "a" and "z" are not part of the formula 12.

In claim 12, the formulae with "z" being 1 are not covered by formula 11 except Ik and Im because the limitation of notation "z" (2 to 5000).

Claim Rejections - 35 USC § 102

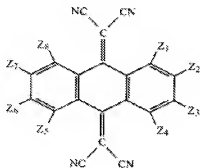
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2-13, 16-18 and 20-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Hotta et al. (US 4,500,459).

The reference discloses a 11,11,12,12,-tetracyano-9,10-antraquinondimethane compound (TCNAQ) of the general formula (A)



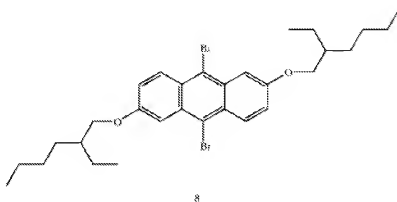
wherein Z₂, Z₃, Z₆ and Z₇ each is H, halogen, alkyl, phenyl, alkylphenyl, hydroxyalkyl, carboxyalkyl, hydroxy, amino or carboxy and Z₁, Z₄, Z₅ and Z₈ each is H, Cl, hydroxy or amino; said halogen being F, Cl, Br or I and said alkyl, alkylphenyl, hydroxyalkyl and carboxyalkyl each containing up to 8 carbon atoms.

The halogenated derivative (A) can be dehalogenated to obtain a **polymer** formed as a plurality of TCNAQ skeletons are linked together (see the present formula Ik). The TCNAQ compounds or **polymers** can be dispersed or otherwise incorporated in other high molecular compounds or the like to provide compositions having desirable properties. The compositions containing such compounds, **polymers** can be used in a large variety of applications as organoelectronic materials such as dielectric materials, conductors, resistors, and other semiconductors and photovoltaic materials (see col. 4, line 6 to col. 5, line 14).

4. Claims 3-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Zheng et al. (CAPLUS 2002US 6,638,644).

The reference discloses a compound 8 represented by formula below

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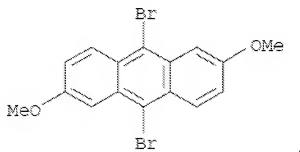


, which

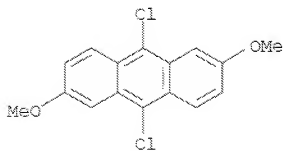
anticipates the claimed compound.

5. Claims 3-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by CA 68: 12754.

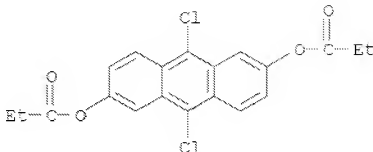
The reference discloses a compounds represented by formulae below



,



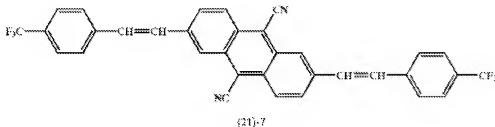
and



, which anticipate the claimed compounds.

6. Claims 3-4, 6-7, 13 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishibashi et al. (CAPLUS 2002: 349431 or JP 2002-134276 (equivalent US 2004/0202891)).

The reference discloses a compound represented by formula below is used in an organic electroluminescence device



The reference compound anticipates the claimed compound (I2c).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 14-15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotta et al. (US 4,500,459).

The present claims differ from the reference in that the reference fails to disclose a medium and (electro)optical device thereof comprising a LC medium, LC polymerizable or light-emissive material. Because the reference materials are polymerizable and known can be used in LC material, therefore, it would have been obvious to those skilled in the art to utilize the reference compounds of formula (A) in LC materials to arrive at the claimed invention.

Response to Arguments

9. Applicant's arguments, see remarks, filed 7/29/08, with respect to the rejections of the claims in the previous Office action have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, new grounds of rejections are made in sections 3-6 and 8 cited above.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 10:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kelly Cynthia can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shean C Wu/
Primary Examiner, Art Unit 1795

SCW